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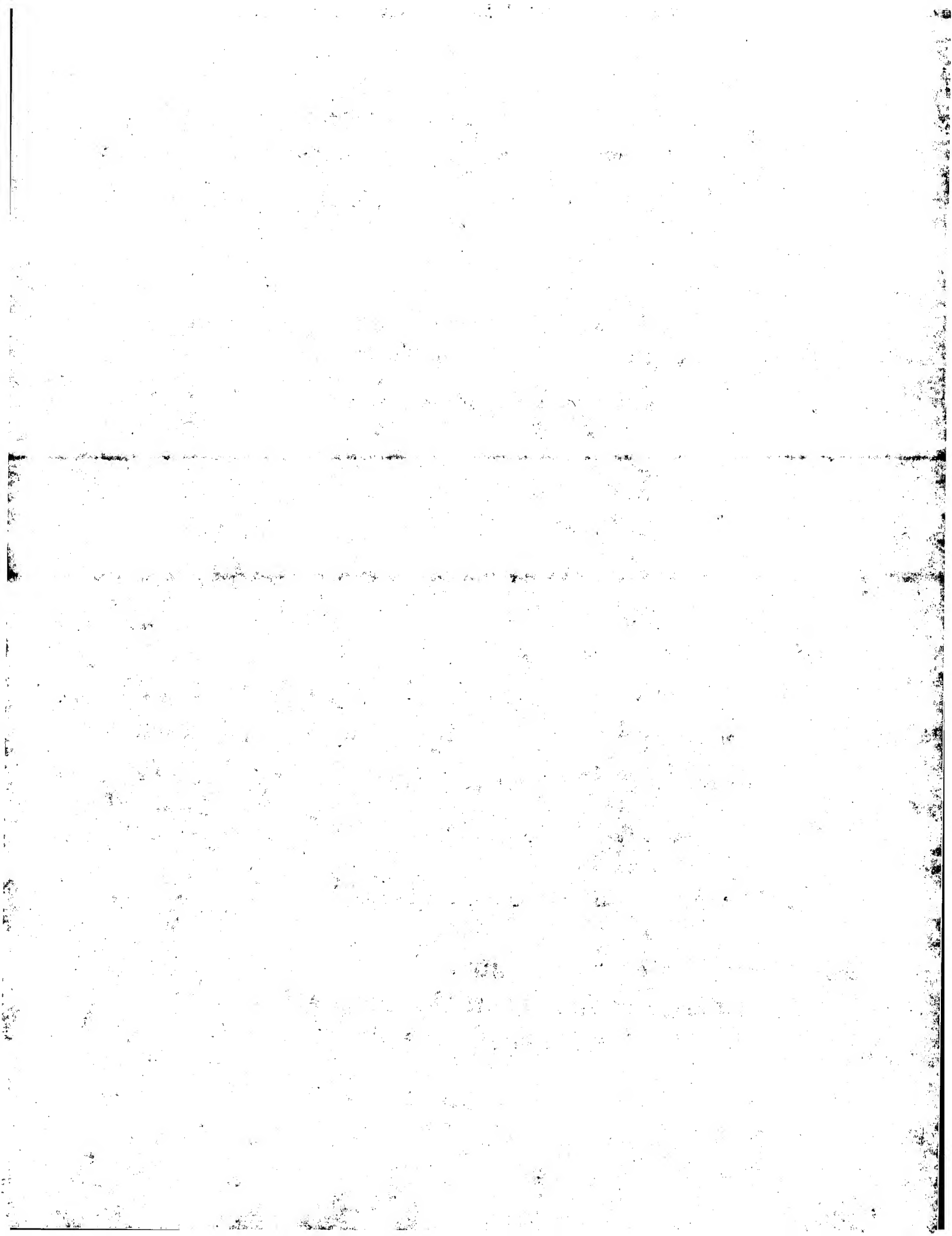
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# PATENT SPECIFICATION

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750,300



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## COMPLETE SPECIFICATION

### A New or Improved Retaining or Suspension Device for Towels and the Like

We, EMPIRE PLASTICS (BIRMINGHAM) LIMITED, a British Company, of Empire Works, Brueton Street, Birmingham, 4, in the County of Warwick, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 The present invention relates to retaining or suspension devices for articles (primarily for articles of sheet form such as cloths, towels, sheets of paper), and is more particularly although not exclusively intended for use with such articles as are required to be removed fairly frequently from a state of retention or suspension and subsequently replaced in this state.

One example which is illustrative of the need which the present invention seeks to satisfy is that which arises in connection with hand towels or drying cloths for domestic utensils and crockery (commonly known as tea towels) these articles being required to be retained preferably by suspension to facilitate drying in a convenient location in the kitchen, bathroom and other situation where they will be required to be used from time to time.

30 According to the present invention we provide a retaining or suspension device comprising a rigid base portion adapted to be secured to a wall or other supporting structure, a pendant portion projecting from said rigid base portion so as to define an open ended slot between said rigid base portion and said pendant portion, and a retention member, said retention member having a part which is located within a recess formed in said rigid base portion and being adapted thereby to having a sliding engagement with the walls of the recess in a direction parallel to the thickness of the said open ended slot, the arrangement being that said retention member can retract to allow

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the article which it is desired to retain to be inserted in said open ended slot, the retention member then being urged by resilient means to an operative position in which the article is gripped between said retention member and said pendant portion.

By thus locating the retention member in a recess so as to have a controlled movement across the open ended slot we provide the advantage of a more effective and positive grip being given to the article to be suspended. Furthermore, when inserting such an article through the open ended slot it is helpful if such article can be stretched and bowed somewhat and such bowing is facilitated by providing said recess in the rigid base portion, thus allowing a working clearance between the inner side of the open ended slot and the wall or other supporting structure.

The pendant portion may be provided by means of a pendant member formed separately from, and afterwards connected to, said rigid base portion.

Preferably the retention member has a face or portion which with respect to the direction in which the article is introduced into the open ended slot is domed chamfered or otherwise inclined so that movement of an article through or out of said open ended slot will cause said retention member to be retracted, and thereby facilitate passage of the article, and preferably also the retention member is in the form of a spring loaded plunger part of which is seated within said recess in the rigid base portion.

The pendant portion may be provided with a shallow recess into which the leading end of said retention member projects in its operative position in order to assist in the gripping of the article.

Further where it is desired to suspend a plurality of articles a single base may be provided with a plurality of pendant portions each of such pendant portions defining an open ended slot with respect to the base

portion.

In order that the invention may be fully understood one form thereof will now be more particularly described with reference to the accompanying drawings in which:

Fig. 1 is a front elevation of a device in which is retained a cloth shown in dotted lines; and

Fig. 2 is a part-sectional side elevation, on a large scale, of Fig. 1.

The base portion of the device is in the form of a plate or block 10 of any convenient shape; for example it may be of approximately triangular shape with the apex at the bottom.

The base portion may be adapted to be secured to a wall or the like structure by means of screwholes 11 preferably arranged at or near the apices of the triangle, although it will of course be under that any other suitable form of fixing means may be

At or near the mid-point of its upper edge the base portion is formed with a non-circular hole in which is secured the complementary non-circular spigot 12 of a projecting member 13 which is in the form of a pendant portion or dependent arm of inverted L-shape as shown in Fig. 2.

The upper limb of the "L" is relatively short and may measure, for example, about 5/16" in length, and it is from the inner end of this arm, *i.e.*, that nearer the base portion, that such non-circular spigot projects.

This spigot is secured in the opening in any suitable manner, for example by means of a screw 14 or other fastening element and/or a suitable adhesive may be employed, and the other limb of the arm or pendant portion projects downwardly at a position spaced from the front surface of the base portion so to present an open-ended slot 15.

This slot may, as shown, diverge in a downward direction so as to facilitate the introduction of part of an article into the slot, or if desired the slot may be parallel-sided, that is to say the inner surface of the pendant portion may be parallel or approximately parallel to the front surface of the base portion.

Alternatively, the slot may be parallel-sided for most of its length, and at its lower end of the lower extremity of said pendant portion may be flared or turned outwardly to facilitate introduction of an article.

If desired, to improve the appearance of the device, the pendant portion may, as shown, have a front face which inclines towards the base portion so that the pendant portion is tapered in a downward direction, the bigger end being uppermost where it is joined to the horizontal limb and the thinner portion being at the lower end adjacent to the entrance to the slot.

In inserting a sheet of cloth or the like

article 16 the upper edge of this will normally be stretched by grasping a part of the article and the stretched portion will be moved upwardly into the slot 15 through the open lower end thereof.

To retain this part of the article within the slot, a spring-loaded plunger 17 or retention member is provided, this plunger being seated in a hole or recess 18 formed in the part of the base portion which lies behind the projecting L-shaped arm or pendant portion.

The plunger may be of any suitable shape in cross-section, for example circular, and it may be guided in the opening in which it is seated for movement perpendicularly to the plane of the base portion, *i.e.*, perpendicular to the length of the slot measured in the downward direction.

The hole in which the plunger is seated is blind or substantially blind at its inner end or is formed with an inwardly-directed flange, shoulder, or like abutment means 19 to enable a coiled compression spring 20 to be inserted between said abutment means and the plunger for urging same outwardly so that its outer extremity tends to be pressed against the inner face of the pendant portion or inverted L-shaped member 13.

An article inserted in the slot then will be nipped between the outer end of this plunger 17 and the inner face of said pendant portion and so retained non-prohibitively in position.

Preferably, the outer end of the plunger 17 is chamfered or domed as shown to that in inserting the article 16 the plunger is displaced inwardly into its seating by a form of camming action as the stretched edge of the article engages with the chamfered or domed end face of the plunger.

The plunger 17 may be situated approximately midway down the length of the slot and on the vertical centre line thereof, but it would be possible to position it nearer the lower end of the slot if desired. Further the inner face of the pendant portion may be provided with a complementary recess 21 into which the leading end of the plunger may project for a short distance to that the portion of the article nipped between this end of the plunger and the pendant portion will be distorted to a slight extent, whereby the security of retention of the article is increased.

In a further construction, not shown, the hole 18 is provided with a radially inwardly directed flange at its outer end to limit the outward movement of the plunger 17, and the inner end of the hole 18 is plain, *i.e.*, is not blind or flanged, and is closed by a removable plate secured to the inner face of the base 10.

Ordinarily, it will be found possible to displace the plunger automatically by the act

of inserting the stretched edge of the article, the strength of the spring being so selected as to enable this to be done whilst being strong enough to provide the necessary degree of retention for the article.

If however the retaining device were required to hold a fairly heavy article or sheaf of papers it would be possible to provide a somewhat stronger spring and to equip the plunger with a manually operable member by means of which it may be depressed while the article is being inserted.

The retaining device may be formed in any suitable material: for example it may be moulded from plastics material, the base portion and the pendant portion being structurally separate parts or formed integrally with each other as may be desired or as may be convenient.

Alternatively, these parts may be formed as die-castings, metal pressings or even of material such as wood. The plunger may be formed of the same material as the base portion and pendant portion, or it might be in the form of a metal component such as a spring-pressed ball.

What we claim is:—

1. A retaining or suspension device comprising a rigid base portion adapted to be secured to a wall or other supporting structure, a pendant portion projecting from said rigid base portion so as to define an open-ended slot between said rigid base portion and said pendant portion and a retention member said retention member having a part which is located within a recess formed in said rigid base portion and being adapted thereby to have a sliding engagement with the walls of the recess in a direction parallel to the thickness of said open-ended slot, the arrangement being that said retention member can retract to allow the article which it is desired to retain to be inserted in said open-ended slot, the retention member then being urged by resilient means to an operative position in which the article is gripped between said retention member and said pendant portion.

2. A retaining or suspension device according to Claim 1, in which said pendant

portion is provided by means of a pendant member formed separately from, and afterwards connected to, said rigid base portion.

3. A retaining or suspension device according to either of above claims, wherein the retention member has a face or portion which with respect to the direction, in which the article is introduced in to the open-ended slot is domed, chamfered or otherwise inclined so that movement of an article into or out of said open-ended slot will cause said retention member to be retracted and thereby facilitate passage of the article.

4. A retaining or suspension device according to any of above claims, wherein said retention member is in the form of a spring-loaded plunger, a part of which is seated within said recess in the rigid base portion, a spring being disposed between the base of said recess and the retention member so that said retention member is urged across the open-ended slot towards said pendant portion.

5. A retaining or suspension device according to any of above claims, wherein the pendant portion is provided with a shallow recess into which the leading end of said retention member projects in its operative position so that that part of the article being retained lies within said shallow recess and is thereby more effectively gripped.

6. A retaining or suspension device according to any of above claims, wherein there are associated with a single base a plurality of pendant portions so that a plurality of open-ended slots are provided to accommodate several separate articles.

7. A retaining or suspension device constructed substantially as described with reference to and as shown in the accompanying drawings.

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#### PROVISIONAL SPECIFICATION

#### A New or Improved Retaining or Suspension Device for Towels and the Like

We, EMPIRE PLASTICS (BIRMINGHAM) LIMITED, a British Company, of Empire Works, Bructon Street, Birmingham, 4, in the County of Warwick, do hereby declare this invention to be described in the following statement is:—

The present invention relates to retaining or suspension devices for articles (primarily for articles of sheet form, such as cloths, towels, sheets of paper), and is more par-

ticularly although not exclusively intended for use with such articles as are required to be removed fairly frequently from a state of retention or suspension and subsequently replaced in this state.

One example which is illustrative of the need which the present invention seeks to satisfy is that which arises in connection with hand towels or drying cloths for domestic utensils and crockery (commonly known

as tea-towels), these articles being required to be retained preferably by suspension, to facilitate drying, in a convenient location in the kitchen, bathroom, or other situation where they will be required to be used from time to time.

According to the present invention, a retaining or suspension device comprises a base adapted for securing to a wall or other supporting structure, a formation or member presenting an open-ended gap into which may be inserted a part of the article to be retained or suspended, and means for effecting a gripping of the part of the article whilst in the gap so as to retain same therein.

For instance, it would be within the scope of the invention for a base member to be provided with an arm connected at or near one end to such member arranged in spaced and approximately parallel relation to the plane of the base member so as to present an open-ended gap between it and the arm, the arm being formed of resilient material such as spring steel, or being pivotally or otherwise movably supported where it is connected to the base member and acted upon by spring or the like biasing means to cause it to be pressed towards the base member so as to grip the part of any article introduced into said gap.

Preferably however, and according to a further part of the invention, a retaining or suspension device comprises a body including a base member adapted for securing to a wall or other supporting structure, a member or formation rigid with said base member and projecting therefrom in such a manner as to present an open-ended gap into which may be inserted a part of the article to be retained or suspended, a retention member operating in or across said gap, this retention member being displaceable to permit the article to be inserted and being so formed or constructed, or being operated upon by spring or equivalent biasing means as to be moved to an operative position in which in combination with said projecting member or formation, or said base member, or both, it serves to retain said article in said gap.

The retention member and the projecting member or formation, or the base member, may be so shaped that in combination they provide non-prohibitive retention of an article of which a part is inserted in the gap.

Preferably, the retention member has a face or portion which with respect to the direction in which the article is introduced into the gap is domed, chamfered or otherwise inclined, and the retention member is displaceable in a direction which is perpendicular or transverse to the direction of introduction of the article.

The retention member may be in the form of a spring-loaded plunger of which part is

seated in a recess in the base member, such plunger being urged by the spring across the gap and towards the underside of the member or formation which overlies the base member but is spaced therefrom to present said open-ended gap.

Alternatively, the plunger might be seated in a recess in the arm or formation and spring-loaded for movement towards the base member.

In either case the base member and the member or formation which projects therefrom may be formed as structurally separate parts and secured to each other fixedly, or alternatively they may be formed integrally with each other.

Where they are formed integrally with each other and the retaining member is in the form of a spring-loaded plunger, it may be introduced into position through a hole extending through the thickness of either the base member or the projecting member or formation, as the case may be, the end of this hole remote from the gap being afterwards closed in any suitable manner to retain the plunger and its biasing spring in position.

Usually, the base member of the retention or suspension device will be of relatively small size, for example lying within a two-inch square boundary, and will be provided with only one projecting member or formation so that each retaining or suspension device serves to support only one article or an associated set of articles such as a sheaf or collection of sheets of paper.

Alternatively, it would be possible to provide a larger base member on which are arranged a plurality of projecting members or formations so that a single suspension or retaining device may serve for several separate articles. For instance, the base member may be in the form of an elongated strip or plate and the projecting members or formations may be arranged at spaced intervals along its length. Such plate or strip may be adapted to be secured to a wall or the like structure with its length extending horizontally, or approximately so, and in this case the formations of members are spaced apart at horizontal intervals and each affords a downwardly directed open-ended gap.

In one specific construction according to the present invention the base member of the device is in the form of a plate or block of any convenient shape; for example it may be of approximately triangular shape with the apex at the bottom.

The base member may be adapted to be secured to a wall or the like structure by means of screwholes, preferably arranged at or near the apices of the triangle, although it will of course be understood that any other suitable form of fixing means may be employed.

At or near the mid-point of its upper edge the base member is formed with a non-circular hole in which is secured the complementary non-circular spigot of a projecting member which is in the form of a dependent arm of inverted L-shape.

The upper limb of the "L" is of relatively short form and may measure, for example, about  $\frac{1}{2}$ " in length, and it is from the inner end of this arm, *i.e.*, that nearest the base member, that such non-circular spigot projects.

This spigot is secured in the opening in any suitable manner, for example by means of a suitable adhesive, screw or other fastening element, and the other limb of the arm projects downwardly at a position spaced from the front surface of the base member so as to present an open-ended gap.

This gap may be parallel-sided, that is to say the inner surface of the dependent limb may be parallel or approximately parallel to the front surface of the base member, or if desired the gap may diverge in a downward direction so as to facilitate the introduction of part of an article into the gap.

Alternatively, the gap may be parallel-sided for most of its length, and at its lower end the lower extremity of said dependent limb may be flared or turned outwardly to facilitate introduction of an article.

If desired, to improve the appearance of the article, the dependent limb may have a front face which inclines towards the base member so that the limb is tapered in a downward direction, the biggest end being uppermost where it is joined to the horizontal limb and the thinnest portion being at the lower end adjacent to the entrance to the gap.

In inserting a sheet of cloth or the like article the upper edge of this will normally be stretched by grasping a part of the article and the stretched portion will be moved upwardly into the gap through the open lower end thereof.

To retain this part of the article within the gap, a spring-loaded plunger is provided, this plunger being seated in a hole or recess formed in the part of the base member which lies behind the projecting L-shaped arm.

The plunger may be of any suitable shape in cross-section, for example circular, and it may be guided in the opening in which it is seated for movement perpendicularly to the plane of the base member, *i.e.*, perpendicular to the length of the gap measured in the length of the gap measured in the downward direction.

The hole in which the plunger is seated is blind at its inner end or is formed with an inwardly directed flange, shoulder, or like abutment means to enable a coiled compression spring to be inserted between said

means and the inner end of the plunger for urging same outwardly so that its outer extremity tends to be pressed against the inner face of the dependent limb of the inverted L-shaped member.

An article inserted in the gap then will be nipped between the outer end of this plunger and the inner face of said dependent limb and so retained non-prohibitively in position.

Preferably, the outer end of the plunger is chamfered or domed so that in inserting the article the plunger is displaced inwardly into its seating by a form of camming action as the stretched edge of the article engages with the chamfered or domed end face of the plunger.

The plunger may be situated approximately midway down the length of the gap and on the vertical centre line thereof, but it would be possible to position it nearer the lower end of the gap if desired. Furthermore, if desired, the inner face of the dependent limb may be provided with a complementary recess into which the leading end of the plunger may project for a short distance so that the portion of the article nipped between this end of the plunger and the dependent limb will be distorted to a slight extent, whereby the security of retention of the article is increased.

Alternatively, the plunger, instead of being seated in a hole in the base member, might be seated in a similar hole in the dependent limb and be spring biased towards the base member.

Ordinarily, it will be found possible to displace the plunger automatically by the act of inserting the stretched edge of the article, the strength of the spring being so selected as to enable this to be done whilst being strong enough to provide the necessary degree of retention for the article.

If however the retention device were required to hold a fairly heavy article or sheaf of papers it would be possible to provide a somewhat stronger spring to equip the plunger with a manually operable member by means of which it may be depressed while the article is being inserted.

The retention device may be formed in any suitable material; for example it may be moulded from plastics material, the base member and the projecting member or formation being structurally separate parts or formed integrally with each other, as may be desired or as may be convenient.

Alternatively, these parts may be formed as die-castings, metal pressing, or even of material such as wood. The plunger may be formed of the same material as the base member and projecting member, or it might be in the form of a metal component such as a spring-pressed ball.

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FIG. 1.

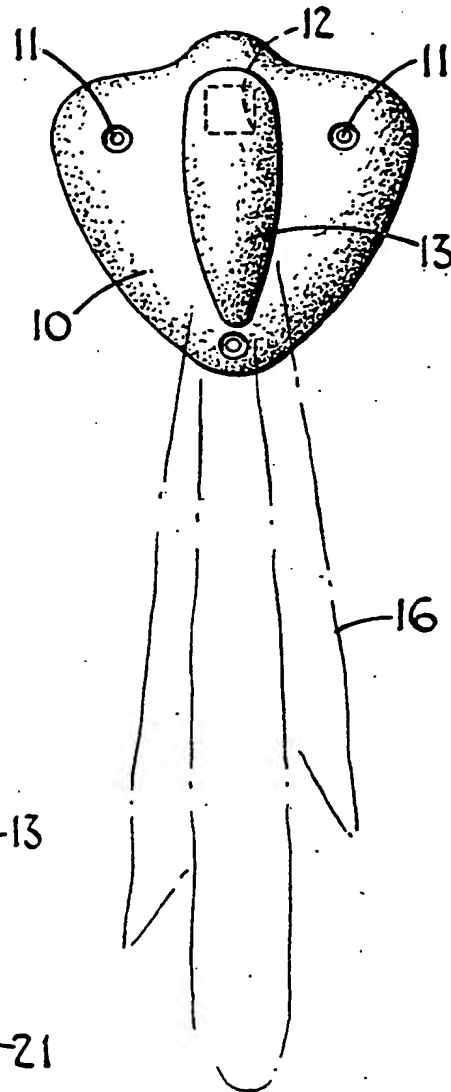


FIG. 2.

